AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (previously presented) A method of producing a metallic coating on an object emerging from a bath of molten metal, in which a magnetic field is created near the exit point of the object, wherein the object leaves the bath of molten metal via an exit channel containing a meniscus of the bath of molten metal, and a thickness e_o of the metallic coating is controlled as a function of a second derivative ϕ of the curve of the meniscus and a capillary number Ca representing the ratio between the viscous forces of the molten metal and the forces of surface tension at the surface of the molten metal, said function being $e_o\Phi_{zz}=1.3C_a^{2/3}$, z being the axis of travel.

2. (previously presented) A method according to claim 1, wherein during vertical drainage upwards, the exit channel is dimensioned in such a way as to maintain the meniscus of the molten metal in conditions close to capillary-gravitational equilibrium in the magnetic field, and wherein the second derivative of the curve of the meniscus is a function of an electromagnetic forming parameter K representing the ratio between the forces of surface tension and the forces due to the effect of electromagnetic forming.

3. (previously presented) A method according to claim 1, wherein the exit channel is constructed in such a way that an annular gap is of the same order as the height of the meniscus, the annular gap being the distance between the inside wall of the exit channel and the metallic coating formed beyond the meniscus.

4. (previously presented) A method according to claim 1, wherein during the vertical drainage downwards in the case of a wire, the second derivative of the curve of the meniscus is a function:

- of the ratio between the average thickness of the wire and the opening of the exit channel; and
- of the ratio between the Alfen rate U_A and the rate of drainage of the wire, this function being:

$$\varphi_{zz} = \frac{1}{R1}\left[2+\left(\frac{R1}{RO}\right)^4\left(1+\frac{U_A^{\,2}}{\alpha V_0^{\,2}}\right)\right]$$

where R1 is the radius of the wire, R0 is the radius of the opening of the exit channel, V_o is the velocity of travel of the wire, and α is a term reflecting the influence of the Couette flow, equal to:

$$\frac{1}{2}\left[\frac{1-\left(\frac{R1}{R0}\right)^2}{\ln\frac{1}{\left(R1/R0\right)}}-2\left(\frac{R1}{R0}\right)^2\right].$$

5. (previously presented) A method according to claim 1, wherein the exit channel is constructed so that the radio between the average thickness of the object and the opening of the exit channel is greater than or equal to 0.8.

6. (previously presented) A method according to claim 1, wherein the magnetic field is alternating and steady-state, and is created by means of a flat inductor.

7. (previously presented) A method according to claim 1, wherein the magnetic field is created by means of an alternating current whose frequency is such that the ratio between the capillary length and the thickness of the magnetic skin in the metallic coating is greater than or equal to 3.

8. (previously presented) A method according to claim 1, for horizontal drainage with an exit channel containing a meniscus obtained by applying a sliding field in the bath of molten metal, wherein the second derivative of the curve of the meniscus is a function of a Bond number Bd representing the ratio between the forces of gravity and the forces of surface tension.

9. (previously presented) A method according to claim 1, wherein means of exerting pressure on the molten metal are used for maintaining the height of the meniscus in the exit channel.

10. (previously presented) A method according to claim 1, wherein means of electromagnetic pumping of the molten metal

are used for maintaining the height of the meniscus in the exit channel.

11. (previously presented) A method according to claim 1, wherein the object is a long and slender object with constant cross-section.

12-17. (canceled)